

Multilin™ EPM 7000PT

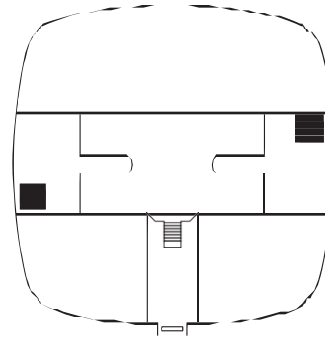
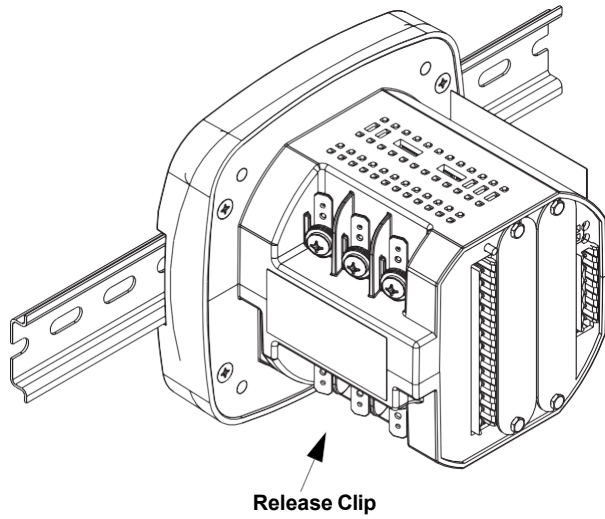
High Performance Power Quality
Metering System

Quick Start Guide

Software Revision: 1.0x
Manual P/N: 1601-0382-A2
Manual Order Code: GEK-131081A
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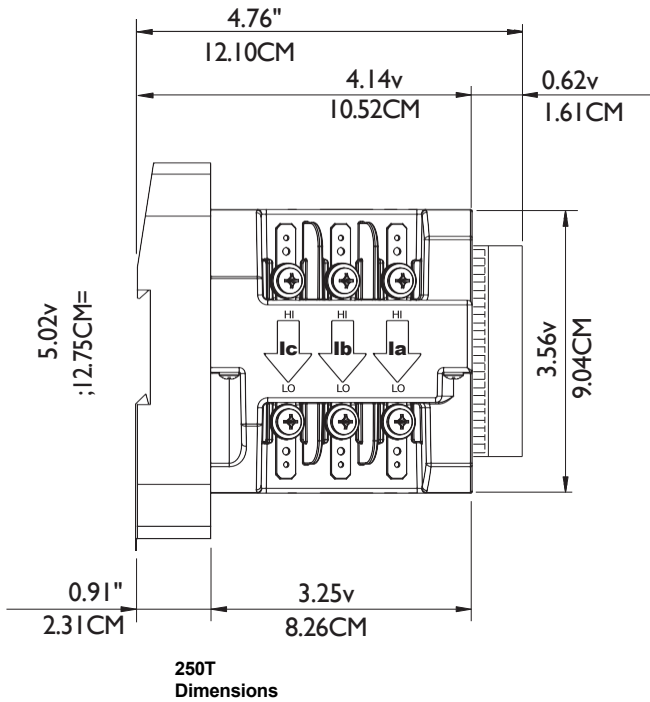


Mechanical Installation



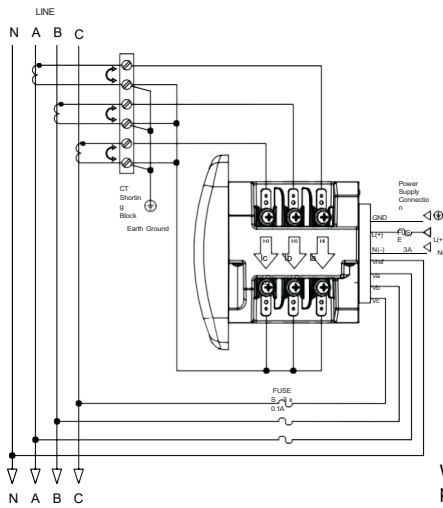
DIN Rail with black rubber stoppers

DIN Installation

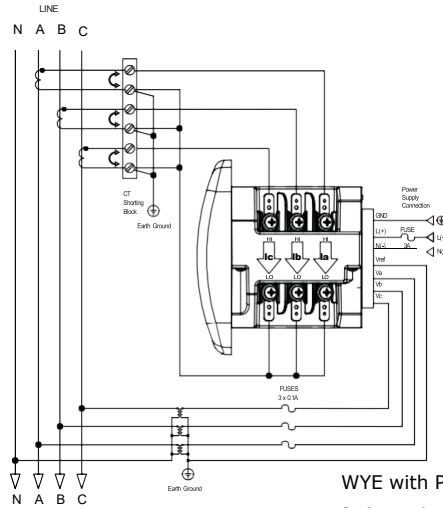


Installation Steps: Slide top groove of meter onto DIN Rail. Press gently until the meter clicks into place. If mounting with DIN Rail provided, use Black Rubber Stoppers (also provided) shown above. To remove meter, pull down on Release clip.

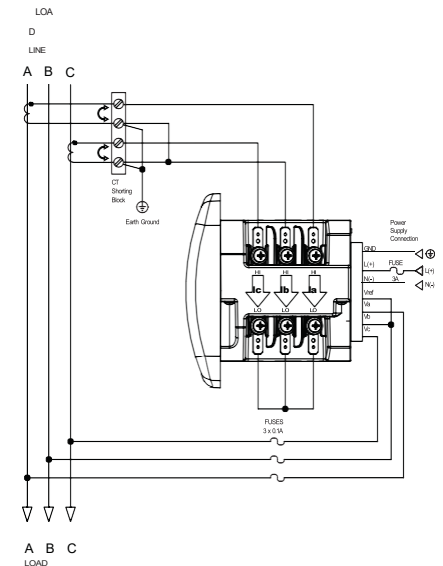
Electrical Installation



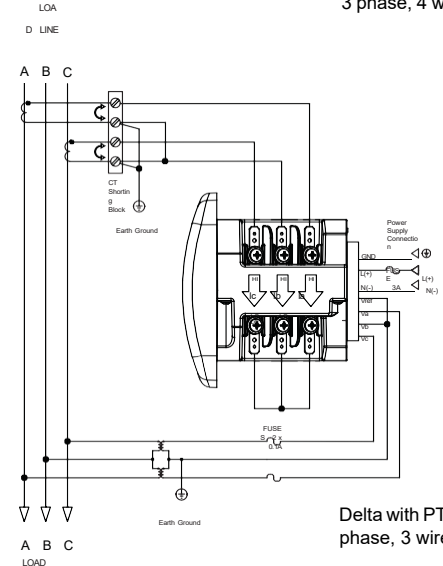
WYE direct, 3 phase, 4 wire



WYE with PTs, 3 phase, 4 wire



Delta direct, 3 phase, 3 wire

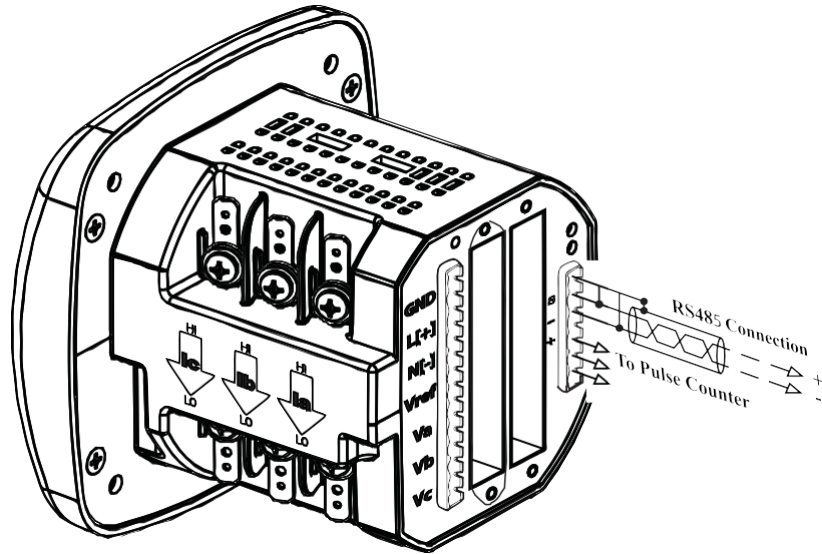


Delta with PTs, 3 phase, 3 wire



Other wiring configurations are available. Find the full manual and software online at: <https://www.governova.com/grid-solutions/automation/protection-control-metering/epm-7000p>

Communication Wiring: The EPM 7000PT meter's RS485 port uses standard 2-wire, half duplex architecture.



Factory Initial Default Settings:

When the EPM 7000PT is powered up, for 10 seconds you can connect to the meter using the Factory Default Settings (even if the Device Profile has been changed). After 10 seconds the Device Profile reverts to the actual Device Profile in use. This is one way you can always connect to the meter. The Factory Initial Default Settings are:

Device Address: 1

Baud Rate: 57600

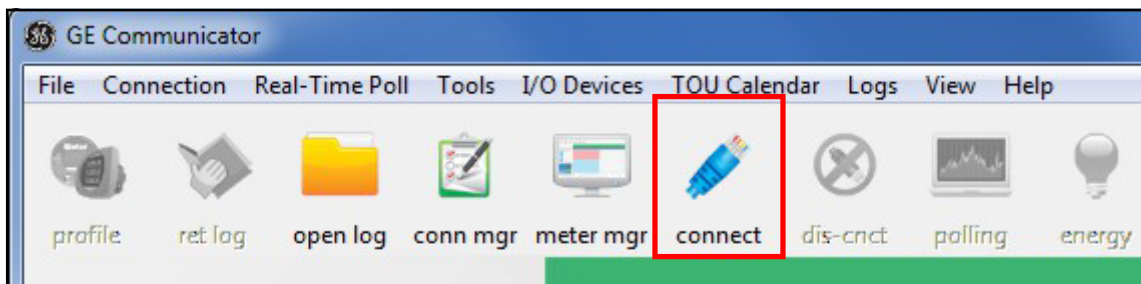
Protocol: Modbus

RTU

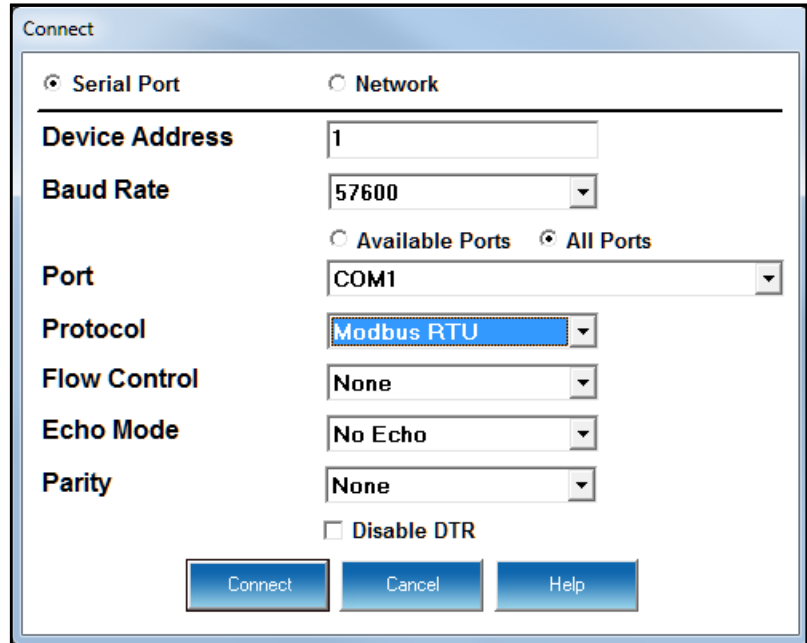
Connection Steps

Download, install, and open GE Communicator software. (Click **Software** on left side of EPM 7000P page <https://www.governova.com/grid-solutions/automation/protection-control-metering/epm-7000p>).

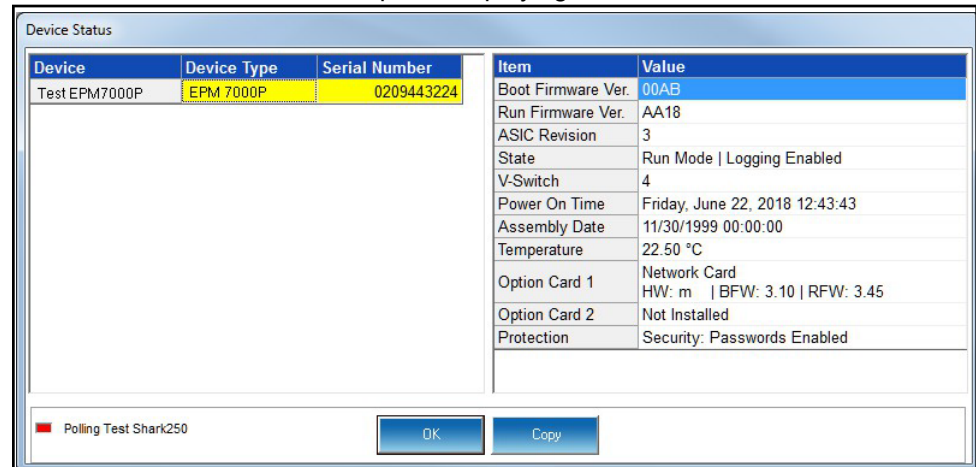
1. Click **Connect** on the Icon Bar.



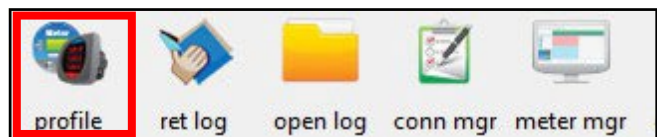
2. You will see the Connect screen. Make sure your settings match the ones shown on the next page (use pull-down menus).



3. The Device Status screen opens, displaying information about the meter.



4. Click **OK** to close the Device Status screen, and then click the Profile icon in the Icon Bar.



5. The meter's Device Profile screen opens, giving you access to the programmable settings for the meter.



NOTE

A few basic settings are explained here. Refer to the *EPM 7000P Instruction Manual* and the *GE Vernova Communicator Instruction Manual* on GE's website: <https://www.gevernova.com/grid-solutions/automation/protection-control-metering/epm-7000p> for expanded instructions. You can also view the software manual by clicking the Help button on a settings screen, or by selecting **Help > Contents** from the top of the GE Communicator software's Main screen.

Program CT, PT Ratios

- The first Device Profile screen is the CT, PT Ratios and System Hookup. If you were on another setting screen, double-click **General Settings > CT, PT Ratios and System Hookup > one of the items in the list** to display this screen.

CT, PT Ratios and System Hookup

	Primary	Secondary
CT Ratio	1	1
PT Ratio	120	120

CT Ratio: Select 5 Amp secondary for a Class 10 meter and 1 Amp secondary for a Class 2 meter.

System Wiring	Full Scales
3 Element Wye	Voltage 120
	Current 1
	Power 120
	Power Total 360

Minimum Voltage Threshold

Minimum Primary Voltage: 4.92

Total Demand Distortion (TDD) (Setting the value to zero will disable TDD)

Maximum Load Current: 5

CT Phase Reversal (Configure phases which are reversed)

A Not Reversed B Not Reversed C Not Reversed

- CT Ratio, enter:
 - Primary (CT Numerator): 1 - 9999
 - Secondary (CT Denominator): 5 or 1 Amp
- PT Ratio, enter:
 - Primary (PT Numerator): 1 - 9999
 - Secondary (PT Denominator): 1 - 9999

Example Settings:

For a CT of 2000/5 A, set the following CT Ratios in the entry fields:

CT Numerator (Primary) 2000

CT Denominator (Secondary) 5

The Current Full Scale field will read 2000.

For a system that has 14400 V primary with a 120 V secondary line to neutral (PT Ratio of 120:1), set the following PT Ratios in the entry fields:

PT Numerator (Primary) 1440

PT Denominator (Secondary) 120

The Voltage Full Scale field will read 14.4k.

- System Wiring, select from pull-down menu:
 - 3 Element Wye; 2.5 Element Wye; 2 CT Delta

This value must be set properly for the meter to calculate readings correctly.

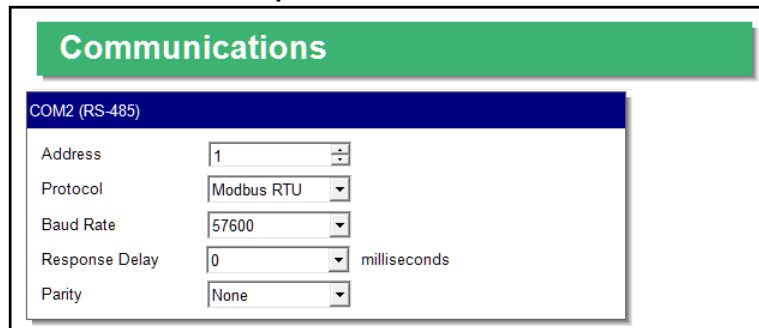
Use the Minimum Voltage Threshold box to enter the minimum voltage threshold, which is a percentage of the voltage full scale. This setting adjusts the pick up threshold for the voltage. You set a percentage of the PT primary (PT numerator X PT multiplier) up to 12.7 in the entry field, to configure when the meter will start reading values above 0 voltage.

Total Demand Distortion (TDD Setting): This setting of the Device Profile allows you to set the maximum value for current, which is used for the TDD (Total Demand Distortion) calculation. TDD is an index used to measure harmonics. In this field enter the maximum load current for TDD. To disable TDD, enter 0 in the field.

CT Reversal Phase Enables: Use this setting to enable CT reversal for any phase. This feature is useful if a CT is wired the wrong way and you do not want to (or cannot) change the wiring. This setting is only available for a three element WYE hookup. For any other hookup, this setting will be ignored.

Program Communications Settings

- From the Device Profile screen, double-click **General Settings > Communications > a listed port.**

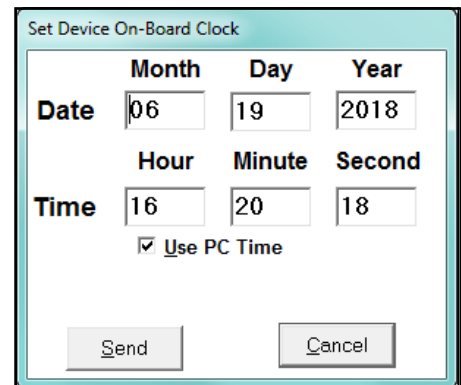


- The setting shown here is for the meter's RS485 port. Enter:
 - Address (1-247 for Modbus); (1-65520 for DNP)
 - Protocol (Modbus RTU, Modbus ASCII, or DNP3)
 - Baud Rate (1200, 2400, 4800, 9600, 19200, 38400, or 57600)
 - Response Delay (0 - 750 in 50 ms increments)
(Response Delay is the delay the meter should use before responding to queries.)
 - Parity (Odd, Even, or None)

Program Meter Time

The meter is preset to Eastern time. To change the meter time:

- From the Main screen's Title bar, click **Tools > Set Device Time.**
- You can either enter the time in the Time fields, or click Use PC Time to set the time using your PC's time.
- Click **Send.**



NOTE

The meter offers multiple Time Synchronization methods. See the software manual (click **Help > Contents** from the Main screen to open the manual) for instructions on setting up Time Sync for the meter.

Program Meter Name

To enter an name/ID for the meter:

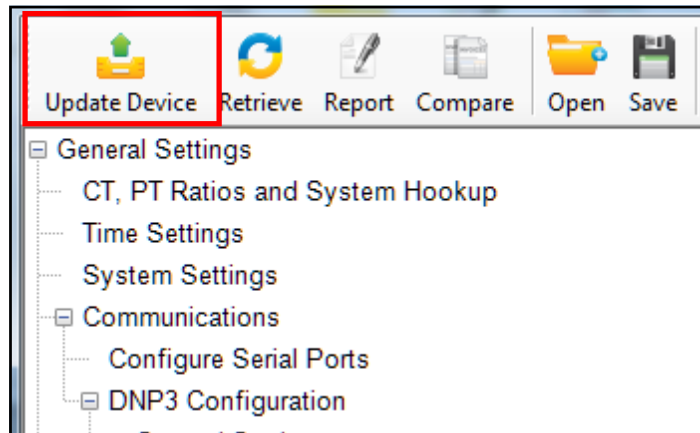
1. From the Device Profile screen, double-click **General Settings > System Settings**.

2. Input a new meter designation into the field. Note that it is important to name each meter individually, since the meter name is used to name the log databases when logs are downloaded.



NOTE

IMPORTANT! When you have made changes to the meter's Device Profile, click Update Device at the top left of the Device Profile screen's Icon Bar, to send the new settings to the meter. The meter will reboot and then you can reconnect to it.



For further assistance

For product support, contact the information and call center as follows:

GE Vernova Grid Solutions	Worldwide telephone: +1 905 927 7070
650 Markland Street	Europe/Middle East/Africa telephone: +34 94 485 88 54
Markham, Ontario	North America toll-free: 1 800 547 8629
Canada L6C 0M1	Fax: +1 905 927 5098

Worldwide e-mail: multilin.tech@gevernova.com

Europe e-mail: multilin.tech.euro@gevernova.com

Website: <https://www.gevernova.com/grid-solutions/automation/protection-control-metering>

Manuals and software: <https://www.gevernova.com/grid-solutions/automation/protection-control-metering>

EU Declaration of Conformity

Declaration number EPM7000/T-EPM7000P/PT-MRK-DOC-C-11072K19
Name of the manufacturer GE MULTILIN INC.
Address of the manufacturer 650 Markland Street, Markham , Ontario, L6C 0M1, Canada
Address of authorised representative GE POWER MANAGEMENT S.L. , Avenida Pinoa 10, 48170 Zamudio, Spain

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Product / model EPM7000, EPM7000T, EPM7000P, EPM7000PT

Object of the declaration Power Quality Metering system

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

2014/30/EU	EMC Directive	February 26, 2014
2014/35/EU	Low voltage Directive	February 26, 2014
2011/65/EU	ROHS Directive	July 21, 2011

References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:

Document Name	Issue
EN61010-1 Safety Requirements for Electrical equipment for measurement control and laboratory use. 3rd edition, October 1, 2013	2013
EN61000-6-4 EMC -Generic Standards-Emission Standard for Industrial Environments	2007
EN61000-6-2 EMC-Generic standards-Immunity Standard for Industrial Environments	2005

Signed for and on behalf of: **Place and Date:** Markham Ont , 11/07/2019

Name Roy
: Mao

Name Boris Kacmar
:

Function Engineering Manager, GE Vernova Multilin Inc

Function: Grid Solutions,
Regulatory
Signature: Compliance, Manager

Signatur

e:



Declaration number

EPM7000/T-EPM7000P/PT-MRK-DOC-C-11072K19

Additional Information

Bose Unit	PL7000P PL7000PT				EPM 7000P Meter Power Quality Meter EPM 7000P Meter Power Quality Meter - No Display
Enclosure	ENC120 ENC277 XXXXXX				NEMAI Roted - Indoor, Single Meter Endosure, 120V NEMAI Roted - Indoor, Single Meter Endosure, 277V None
Frequency		5 6			50 Hz AC frequency system 60 Hz AC frequency system
Current Input		1A SA			1 A secondary 5 A secondary
Software			A B C D		Multimeter function only Data Logging, 2 MB memory 128 Samples/Channel Waveform Recording, 10 MB Memory 512 Samples/Channel Waveform Recording, 128 MB Memory
Power Supply				HI LO	90 to 265 VAC; 100 to 370 VDC 18 to 60 VDC
I/O Modules) (XX	None
				E1	E1 IOBaseT Ethernet
				E2	E2 IOBaseT Ethernet with IEC 61850 Protocol
				C1	C1 Four Channel Bi-directional 0 to 1 mA Outputs
				C2	C2 Four Channel Bi-directional 4 to 20 mA outputs
				RS	RS Two Relay Status outputs/Two Sub.I.s Inputs
				PS	PS Four Pulse Outputs/ Four status Inputs
				F1	F1 Fiber Optic Interface with ST Terminations
				F2	F2 Fiber Optic Interface with Versatile Terminations
				S1	S1 RS232/RS485 card